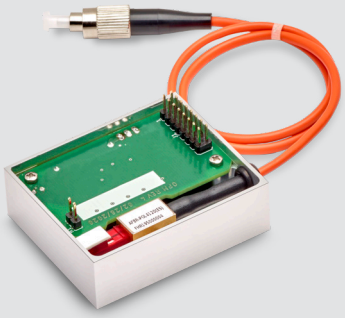
BROADCOM

Product Brief

AFBR-POMEK2204

Evaluation Kit for 2W Laser



Key Features

- Output power: Up to 2W over the operating temperature range
- Small footprint housing
- Operating temperature: +15°C to +45°C
- FC/PC port: MM fiber 62.5-µm, 105-µm, and 200-µm core diameter
- Electrical pins (anode and cathode)
- Designed for power-over-fiber
- RoHS compliant (laser)

Applications

- Sensors requiring electrically isolated power
- Electric utilities: Current sensing
- Medical: MRI monitoring
- Power electronics: Gate driver
- Electric train: Current sensing

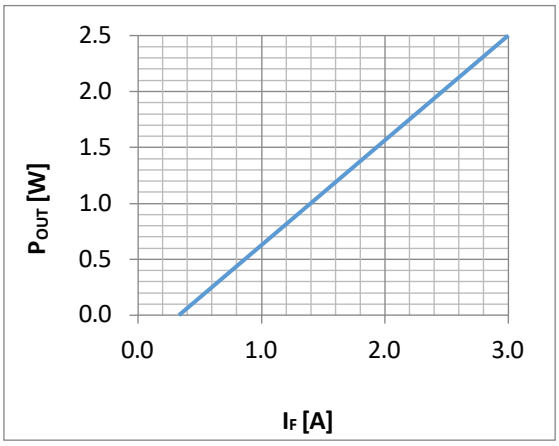
Overview

Broadcom is launching the AFBR-POMEK2204, an evaluation kit in support of its newly released 2W laser, AFBR-POL2120. The kit, which incorporates the 2W laser, features a controllable current source to adjust the laser light output. A full power-over-fiber link is conveniently achieved by coupling to one of Broadcom's optical power converters (AFBR-POC204L or AFBR-POC206L). Broadcom's highly efficient optical power converters are well known for delivering 100% galvanically isolated power in industrial applications. With the 2W laser, Broadcom now provides the complete solution.

The AFBR-POMEK2204 delivers up to 2W of laser light output power that is controlled via an easily accessible 16-pin connector. A 5V voltage supply is all that is needed to operate the evaluation kit. The laser drive current can be controlled to ramp up to constant or pulsed power and maintain that power. The laser pigtail is terminated with an FC connector that matches Broadcom's optical power converter. The 2W laser falls under Class 4 (IEC60825-1), and the kit should never be operated without an optical power converter connected at the end of the fiber pigtail. Using a closed loop with continuous feedback, Class 1A laser classification is feasible.

At low-operating laser currents (<1A), the aluminum housing provides adequate heat dissipation, but it is still recommended to mount the housing on a heat sink or a larger piece of metal. This is necessary for laser currents at 1A and above. Typical laser light output is shown in Figure 1.

Figure 1. Light Output as a Function of Drive Current



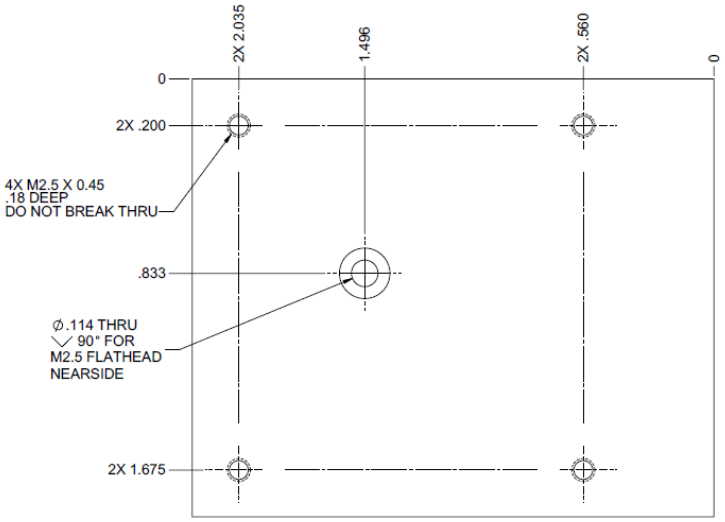
Ordering Information	
Description	Part Number
Evaluation Kit	AFBR-POMEK2204
Evaluation Kit Components	
Laser and current driver module with fiber pigtail terminated with an FC/PC connector.	

AFBR-POMEK2204 Specifications

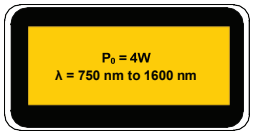
Operational Conditions				
Parameter	Min.	Max.	Unit	Comment
Storage Temperature	–30	+70	°C	Non-condensing
Operating Temperature	+15	+45	°C	Non-condensing
Power Consumption	—	15	W	Maximum rating
Optical Specifications				
Parameter	Min.	Max.	Unit	Comment
Optical Wavelength	798	818	nm	—
Laser Classification	—	—	—	Laser Class 4 IEC60825-1
Connectivity				
Parameter		Value		Comment
Optical Fiber Pigtail Termination		FC/PC		3-mm protective jacket
Input Power Voltage Source		5V; 3A max		±50-mV ripple (PIN: 7–10 5V; 13–16 GND)
Current Control & Monitor		J1 (16 pin)		PIN: 1 & 3; 11 (0.15-ohm resistor)
Mechanical Specifications				
Parameter		Value		Unit
Dimensions		2.235 x 1.875 x 0.63		inch
Weight		2.5		oz

Mechanical Drawing

Figure 2: Mounting Holes on Backside (All Dimensions in Inches)



User Safety



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Authorized Distributor

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